10/540660

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



I DEBIG BRIGHTAN IT BEERE KARL BERK BERK BERK EITE IN EN BERGE BIRD TERGE HALD BRIGH HET BERKE HET BERKEN HET HER HET

(43) International Publication Date 8 July 2004 (08.07.2004)

PCT

(10) International Publication Number WO 2004/057252 A1

(51) International Patent Classification⁷: 3/06, B63B 22/02

F25J 1/02,

(21) International Application Number:

PCT/NO2003/000441

(22) International Filing Date:

23 December 2003 (23.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20026189

23 December 2002 (23.12.2002) NO

- (71) Applicant (for all designated States except US): INSTITUTT FOR ENERGITEKNIKK [NO/NO]; P.O. Box 40, N-2027 Kjeller (NO).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): BENCZE, Istvan [NO/NO]; Parkv. 2, N-1550 Hølen (NO). BOSIO, jan [NO/NO]; Benneches g 1, N-0169 Oslo (NO). ENDRESTØL, Guttorm, O. [NO/NO]; Prost Petersens v 77, N-2019 Skedsmokorset (NO). SIRA, Terje [NO/NO]; Lønneveien 120, N-2020 Skedsmokorset (NO).

THOMASSEN, Dag [NO/NO]; Granåsen 12, N-1900 Fetsund (NO).

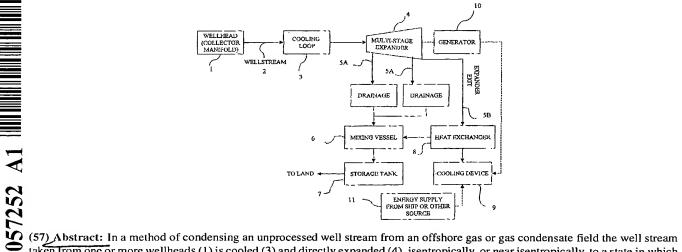
- (74) Agent: J.K. THORSENS PATENTBUREAU A/S; P.O. Box 9276 Grønland, N-0134 Oslo (NO).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND SYSTEM FOR CONDENSATION OF UNPROCESSED WELL STREAM FROM OFFSHORE GAS OR GAS CONDENSATE FIELD



(57) Abstract: In a method of condensing an unprocessed well stream from an offshore gas or gas condensate field the well stream taken from one or more wellheads (1) is cooled (3) and directly expanded (4), isentropically, or near isentropically, to a state in which the pressure is close to that of a storage tank (7). Part of the well stream is condensed and condensed fractions thereof is drawn off the expander and fed to the storage tank along with condensation products (5B) from the exit of the expander. Hence, without any preprocessing, a condensed well stream product is produced which comprises a mixture of liquids and solids which are collected in the storage tank (7) for transport therefrom to land. A system for carrying out the method is also disclosed. The invention makes the condensation of an unprocessed well stream possible without any preprocessing thereof, such as extraction of solid particles, e.g. sands, removal of water, cleaning or drying. Thus, by means of the invention smaller gas or gas condensate fields can be developed in a more cost efficient way.

